

WORKING PLAN DRAFT
January 6, 1992

PROPOSED WORKING PLAN FOR
ALTERNATIVE WATER RESOURCE MANAGEMENT
BIG LOST RIVER PUMPERS ASSOCIATION, BIG LOST RIVER

Purpose and Organization:

The Big Lost River Pumpers Association is organized to provide remedy to any legitimately determined injury which may be imposed on prior vested rights as a result of pumping from its members' wells. The non-profit organization known as "Big Lost River Pumpers Association" proposes the working plan described below as an alternative to "strict water management" of the waters of the Big Lost River basin ("strict water management" is interpreted to mean administration of water rights in such a manner that groundwater pumpers, as junior water appropriators in the basin, would be subject to curtailment of pumping during times of reduced surface water flows).

This proposal provides for mitigation to senior surface water appropriators as compensation during a time of call for any depletion effects of the surface streamflows that may be caused by pumping extractions from groundwater. The mitigation thus provided by the members of this organization is expected to avoid curtailment of pumping of members' existing wells and to make provision for continued development of pumping of groundwater for

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beneficial use by the members of this organization in accordance with their water rights.

A further objective of the organization is to pursue maximum utilization of the water of the state consistent with the water laws of Idaho. To this end the organization seeks to develop further understanding of the water resource by educational efforts and seeks to provide for more efficient use of the water resource by improvement projects on behalf of its members.

The organization described as "Big Lost River Pumpers Association" presently consists of twenty-three members whose names are attached, with a duly elected president, secretary/treasurer, and an elected board of directors. At present, the president of the organization is Mr. Herman Aikele, of Moore; the secretary is Mr. Don Aikele, also of Moore. All members of the organization hold current water rights for pumping from groundwater in the Big Lost River basin. Future membership in the Big Lost River Pumpers Association is open to all groundwater pumpers in the Big Lost River basin subject to their compliance with the membership criteria and their initiation with the payment of appropriate joining fees and dues of the organization.

Members of the Big Lost River Pumpers Association pay an

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initiation fee of \$500 each and additional annual dues in proportion to the volume of water projected to be pumped for the coming year, adjusted for the actual amount of pumpage based on records of the previous year. All basin groundwater users are invited to join the organization at such time as they feel the need of the representation provided by the elements of this plan. Future members may join the organization subject to an initiation fee consisting of the cumulative administrative costs (non-replacement costs) of the organization on a per share basis.

The Big Lost River Pumpers Association proposes to make mitigation water available to the Director of the Idaho Department of Water Resources for allocation by the water master of Water District 34 to senior surface water appropriators on a call basis according to the historical basis of the water rights of the senior appropriators. As the Big Lost River Pumpers Association does not yet represent 100 percent of the pumpers in the valley, it is expected that the mitigation effort to be required of the organization is to be in some proportion to the groundwater pumped by the members of the organization and in reasonable relation to the impacts of the pumping by organization members to the senior surface water appropriators. As the historical basis of the surface water rights is not yet clearly defined, some effort must be directed to this end in the very near future. The Big Lost River Pumpers Association wishes to be

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involved in this effort as well as any other efforts in further understanding of the water resources of the basin.

Sources of Mitigation Water

Sources of the mitigation waters at present include waters to which the members of the organization presently hold water rights or which may be purchased, and include storage water in Mackay Reservoir, decreed water from the Big Lost River, groundwater pumped from members' wells or from wells yet to be constructed by the organization, and storage waters that are available for purchase from time to time. In the future, the organization would like to be able to provide mitigation water by means of artificial recharge using projects yet to be constructed.

Proposed Basis for Determination of Quantity of Mitigation Water

Members of the Big Lost River Pumpers Association recognize that as an alluvial well is pumped from a water table aquifer, the water table surrounding the well is gradually lowered, creating a cone of depression. If the well is located in an area where groundwater is directly tributary to a stream, as is the case in some reaches of the Big Lost River basin, as pumping continues over time, this cone may reach the stream itself and

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deplete the stream flow. This depletion may occur either by reducing the groundwater flow (base flow) to the stream or by inducing movement of stream water into the aquifer. Further pumping may continue the drawdown near the stream, causing even greater depletions until the water table reaches a point where further lowering will no longer increase stream depletions. When pumping ceases, the water table gradually recovers, reducing depletions. While such relationships are difficult to establish for any individual well during a specific interval of time, the general relationships are understood to occur.

Mathematical expressions can be developed to quantify the effects described above, but such equations are often complex, and exact solutions are either very tedious or impossible. As a result, simplifying assumptions are often made to express the interactions between the alluvial aquifer and the stream. Such solutions require a period of data collection and analysis, followed by a period of development, testing, and verification of the empirical mathematical model. Acceptable relationships defining the stream depletion factor have not been developed for the Big Lost River basin, nor for the reach of the river below the Moore Diversion. The Big Lost River Pumpers are willing to work with the Director to establish acceptable relationships describing the depletion of surface water due to pumping in the lower portion of the basin below the Moore Diversion.

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The stream depletion relationship to pumping as presented in the Ralston report is not acceptable to the Big Lost River Pumpers Association because of many deficiencies in both the data availability and in the analysis of the meager data that were at hand. For example, the pumping data used in the analysis were for recent drought years, all depletions were assigned to this pumping, no consideration was given to the large amounts of "shrinkage" assessments made for the conveyance of the pumped water, and impacts due to lowering of the water table caused by the drought conditions separate from the pumping effects were not directly included in the deficiency relationship. Although the authors recognized depletions due to increases in consumptive use not related to pumping, they did not account for these impacts on depletions. Nor did their analysis recognize the fact that in many cases the pumped water is delivered into a surface water distribution system (canals or the river) where substantial losses to groundwater occur, thus reducing the depletion effects of pumping from some wells. Because of these deficiencies in the relationship between groundwater pumping and streamflow depletions presented in the Ralston Report, the Big Lost River Pumpers propose that an interim depletion factor be assumed and used until such time as a more realistic depletion factor can be derived that is acceptable to both the Director and the Big Lost River Pumpers Association. There may be justifiable reasons for developing and using different depletion factors for different

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reaches of the river or for different zones of the Big Lost River basin.

As an interim measure, the Big Lost River Pumpers Association proposes that the depletion factor should be assumed to be five (5) percent of the water pumped, measured at the well head, for the first 100 days of pumping, and ten (10) percent of the water pumped for all water pumped beyond the first 100 days. This assumed depletion factor will be refined with time as additional data become available and as those data are analyzed and modeled to describe the interactions between pumping and stream flows.

The amount of water to be made available to the Director under the proposed replacement plan is proposed to be equal to five (5) percent of the projected annual volume of ground water diversion taken during the first 100 days of pumping during the season and ten (10) percent of the projected annual volume of ground water diversion to be taken after the first 100 days of pumping. However, the measure of need is to be based, not on some calculation of the stream depletions, but on the existence of a valid senior call on the river by the District 34 water master at a time when historically there would have been adequate surface flows in the Big Lost River, ~~below the Moore Diversion.~~ It is to be understood that the sources of supply provided to the

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water master are sources legitimately held by the members of the Big Lost River Pumpers organization and that the source of supply is not of concern to the senior surface water appropriators so long as the location and timing of the supply is strategically located so as to be able to satisfy the call of the senior surface water appropriator. Members of the Big Lost River Pumpers Association believe that their alternate sources of water supply from which mitigation water can be provided meet this need.

Provision of Data to the Director

To make this plan of mitigation workable, the members of the Big Lost River Pumpers organization agree to provide to the Director: 1) an annual updated listing of the members of the organization, 2) the amount, location and cropping patterns of the acreage irrigated by the wells, 3) an estimate each year of the volume of water to be taken from the members' wells for their own use, 4) the manner of conveyance from the well to the place of use, and 5) a complete record of the volume of water pumped from members' wells during the previous year. The information listed above is considered to be the minimum amount of information required to make the proposed plan workable.

The Big Lost River Pumpers Association will provide

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assistance in the development of additional information to further refine the depletion factor, but as this information is yet to be defined, the nature of the assistance to be provided is not specifically identified in this plan of operation. The Big Lost River Pumpers Association proposes to begin the process of refining the pumping depletion factor upon acceptance of this mitigation plan by the Director. A plan for this refining process will be developed in cooperation with the Director that will identify sources of funds to be used for this process, cooperating agencies and groups, additional data required, methods of analysis, and a general time schedule for completion of the process.

Concluding Statement:

The members of the Big Lost River Pumpers Association are hopeful that this plan of mitigation will prove to be useful in resolving conflicts in the use and development of surface waters and groundwaters of the Big Lost River basin such that costly litigation may be avoided while at the same time permitting the beneficial use of the groundwater supply and storage for economic benefit to individuals in the basin and to the state of Idaho.

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MEMBERSHIP ROSTER & WATER REPRESENTED

BIG LOST RIVER PUMPERS ORGANIZATION

	<u>Name & Address</u>	<u>Water Represented</u>
1.	Everett T. Acor, Jr. 1322 East Iona Road Idaho Falls, ID 83401	AF - River Decree AF - Pump AF - Storage
2.	Daryn Acor Route 1, Box 13 Moore, ID 83255	0 AF - River Decree AF - Pump 0 AF - Storage
3.	Kurt Acor Route 1, Box 63-C1 Moore, ID 83255	0 AF - River Decree AF - Pump 0 AF - Storage
2.	Don A. Aikele Route 1, Box 60 Moore, ID 83255	2226 AF - River Decree 4498 AF - Pump 44 AF - Storage
3.	Herman Aikele Route 1, Box 61 Moore, ID 83255	350 AF - River Decree 1050 AF - Pump 30 AF - Storage
4.	Juel Aikele Route 1, Box 63-D Moore, ID 83255	313 AF - River Decree 10,355 AF - Pump 0 AF - Storage
5.	Steve Aikele Route 1, Box F Moore, ID 83255	0 AF - River Decree 2967 AF - Pump 0 AF - Storage
6.	Kenneth Bell Route 1, Box 227-A Arco, ID 83213	AF - River Decree AF - Pump AF - Storage
7.	Willard Bell Route 1, Box 91 Arco, ID 83213	AF - River Decree AF - Pump AF - Storage
8.	Judd Cramer HC 67, Box 0295 Challis, ID 83226	0 AF - River Decree 1851 AF - Pump 0 AF - Storage

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9.	Dexter Douglas Route 1, Box 916 Arco, ID 83213	0 AF - River Decree 1323 AF - Pump 0 AF - Storage
10.	Leon Folkman PO Box 823 Arco, ID 83213	825 AF - River Decree 715 AF - Well 196 AF - Storage
11.	J. Vaughn Jensen Route 1, Box Moore, ID 83255	AF - River Decree AF - Pump AF - Storage
12.	Kirby Jensen Route 1, Box 50 Moore, ID 83255	747 AF - River Decree 183 AF - Pump AF - Storage
13.	Todd Perkes Route 1, Box 69 Moore, ID 83255	575 AF - River Decree 3767 AF - Pump 104 AF - Storage
14.	Ralph Parkinson Route 1, Box 228 Arco, Idaho 83213	AF - River Decree AF - Pump AF - Storage
15.	Arthur Quist Route 1, Box 203 Arco, ID 83213	3572 AF - River Decree 1225 AF - Pump AF - Storage
16.	Larry Quist Route 1, Box 203 Arco, ID 83213	AF - River Decree AF - Pump AF - Storage
17.	Doug Schureman Route 1, Box Arco, ID 83213	2585 AF - River Decree 1652 AF - Pump 212 AF - Storage
18.	Mitchell Sorensen Route 1, Box 63 C-1 Moore, ID 83255	1690 AF - River Decree 3312 AF - Pump AF - Storage
19.	Richard A. Tuthill (PU Ranch) 4500 Imperial Avenue San Diego, Calif. 92113	2856 AF - River Decree 1448 AF - Pump 587 AF - Storage

member	phone	address	CSZ	In fee	Ad fees	SF cfs	SF AFY	SA AFY	P cfs	P AFY
Acor, Daryn	527-3309	RL 1 Box 13	Moore, Idaho 83255	\$450		0.00	0	0	0.00	0
Acor, Everett	554-3561	RL 1 Box 277	Moore, Idaho 83255	\$450		12.88	4508		81.83	28640
Acor, Kurt	527-3528	RL 1 Box 63 C-1	Moore, Idaho 83255	\$450		0.00	0	0	0.00	0
Aikele, Don	527-3325	RL 1 Box 60	Moore, Idaho 83255	\$500	\$459	10.18	3563	44	21.16	8536
Aikele, Eric	527-3410	RL 1 Box 63 FF	Moore, Idaho 83255	\$500		0.00	0	0	0.00	0
Aikele, Herman	527-3113	RL 1 Box 61	Moore, Idaho 83255	\$500	\$33	2.76	967	30	4.00	1400
Aikele, Juel	527-3197	RL 1 Box 63 D	Moore, Idaho 83255	\$500	\$901	1.46	511	0	36.47	12764
Aikele, Steven	527-3398	RL 1 Box F	Moore, Idaho 83255	\$500		0.00	0	0	9.73	3405
Bell, Kenneth	527-3929	RL 1 Box 227-A	Arco, Idaho 83213	\$500		16.00	5600	0	40.57	14200
Bell, Willard	527-8903	PO Box 91	Arco, Idaho 83213	\$500	\$450	12.40	4340	638	0.00	0
Cramer, Judd		HC 67 Box 0295	Challis, Idaho 83226	\$500		0.00	0	0	11.20	3920
Douglas, Dexter	527-3682	PO Box 916	Arco, Idaho 83213	\$500		0.00	0	0	19.60	6860
Folkman, Leon	527-3146	PO Box 823	Arco, Idaho 83213	\$500		4.26	1491	196	7.00	2450
Jensen, Jay V.	554-2093	RL 1 Box 112	Moore, Idaho 83255	\$500		4.94	1729	222	4.80	1680
Jensen, Kirby	527-3385	RL 1 Box 50	Moore, Idaho 83255	\$500		7.58	2653	0	1.08	378
Jensen, L. Vaughn	527-3398	RL 1 Box 35	Moore, Idaho 83255	\$0		10.74	3759	242	4.80	1680
Parkinson, Ralph	527-3161	RL 1 Box 228	Arco, Idaho 83213	500		7.60	2660	0	16.65	5827
Perkes, Todd	527-3157	RL 1 Box 69	Moore, Idaho 83255	\$450	500	1.34	469	104	31.91	11168
PU Ranch	527-3133	RL 1 Box 447	Arco, Idaho 83213	\$500	\$451	8.16	2856	587	4.14	1448
Quist, Arthur	527-3107	RL 1 Box 203	Arco, Idaho 83213	500		12.00	4200	224	14.50	5075
Quist, Larry	527-3107	RL 1 Box 203	Arco, Idaho 83213	500		18.48	6468	238	7.00	2450
Schureman, Doug	527-3147	RL 1 Box 226	Arco, Idaho 83213	\$500		14.36	5026	212	9.18	3213
Sorensen, Mitchell	527-3271	RL 1 Box 63 C-1	Moore, Idaho 83255	\$500		2.40	840	131	16.70	5845
				\$9300	\$2294	147.54	51640	2868	345.32	120939

McDonald, Dorell 527-3443 P.O. Box 102 Arco, ID 83213 500

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